

Brucella melitensis of Goats and Sheep

An Important Public Health Issue

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Brucella melitensis (*B. melitensis*) is an infectious bacterial disease that can affect most domestic animals, but goats and sheep are especially susceptible. The bacteria causes a severe debilitating disease in people. Do not confuse this disease with other brucella infections: *B. ovis* causes infertility in sheep but does not spread to people or other animals; *B. abortus* (a cattle disease agent) can, although very rarely, infect sheep and goats.

Where is infection? *B. melitensis* has not been found recently in the U.S.; the last outbreak was in southern Texas in 1999 in cattle and in a goat and sheep herd. *B. melitensis* is common in goats in Mexico where it is the major cause of human brucellosis. It occurs in small ruminants in Latin America, southern Europe, the Middle East, Central Asia, and Africa.

Signs of *B. melitensis* in goats and sheep: Abortions in late pregnancy, retained placentas, birth of weak offspring and mastitis are the most common signs in newly infected flocks. There may be no signs, or sporadic abortions, in flocks that have been affected for some time. Does and ewes usually only abort once but continue to shed bacteria in their birth products; a few animals abort repeatedly. Goats become persistently infected and can shed the bacteria in their milk throughout their lifetime. Healthy asymptomatic carriers are a source of infection. Other signs include death of weak offspring, low weaning weight, decreased milk production, orchitis and epididymitis, and reduced fertility (more common in sheep).

How are goats and sheep infected? Goats and sheep infect themselves by licking aborted fetuses, placentas, newborn offspring, vaginal discharges, or by consuming feed contaminated with these materials. Respiratory acquired infections can occur when animals or wind disturb contaminated dust. Milkers can spread the infection through unsanitary milking practices.

How are people infected? *B. melitensis* spreads to people from infected animals through raw milk, unpasteurized dairy products, processing meat from infected goats, and contact with aborted kids or infective reproductive secretions. Cases occur annually in California in people who eat raw dairy products, usually soft goat cheese, from Mexico. Pasteurized milk products and cooked meats do **not** spread disease. Inhaling contaminated dust and aerosols, contact with carcasses, or handling wool from infected animals can also infect people. Milkers can be infected through the skin and by milk that sprays in the eyes during the milking process. People exposed to infected animals should take precautions to prevent disease.

Symptoms and treatment in people: Brucellosis (Malta Fever, Mediterranean Fever, Undulant Fever) causes fever, night sweats, chills, headaches, joint and bone pain, muscle aches, weakness, weight loss, nausea, and depression. Disease is difficult to diagnose and resembles influenza or malaria. Complications include inflammation of the heart and nervous system, occasionally resulting in death, and persistent long-term joint and bone problems. People can suffer from the disease for weeks, months, or years if not treated early or properly. Treatment usually consists of a 6-week course of two antibiotics; complications or relapses require longer treatment. There is no safe, effective vaccine for people.

What is California doing? The California Department of Food and Agriculture (CDFA) is annually testing and reviewing disease surveillance on goat herds and sheep flocks producing Grade A milk and milk to be used in raw milk products using a statistical sampling procedure as described in the FDA Pasteurized Milk Ordinance.

If you suspect brucellosis in your flock: Contact your private veterinarian or CDFA immediately. We can assist you in submitting aborted fetuses, placentas and blood samples to the California Animal Health and Food Safety (CAHFS) Laboratory. **Diagnostic work for brucellosis is free of charge.**

Disease prevention: There is no treatment for infected livestock, and vaccines are not used in the U.S. Disease prevention includes:

- Purchase goats or sheep from known sources
- Avoid mixing your animals with other flocks
- Test new purchases before adding to your flock
- Do not use dogs that have been exposed to infected sheep and goats in countries where the disease is endemic.
- Pasteurize milk
- Proper hygiene

Finally, assure early detection and peace-of-mind by submitting samples from aborting does and ewes to CAHFS for diagnosis.

CDFA Animal Health Branch Offices	
Sacramento (HQ)	916-900-5002
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